Notebook, N-00-11-24

1[illegible]
6[illegible]

310
15
550
10
3
4650
60) 4200
450

(77

Nov 24th 1900

Charcoal Carbon plates original weight 6.2 grams about 12 grams Ox Hg in them, 4 times have put in Nit Hg & then reduced in KOH then water, then Dried on hotplate then more Nit Hg - last two times reduced Hg to metallic state by current then soaked water then Dried closed it with Nit Hg. then reduced by current & did same thing again - this is Relating to Hg - Think from previous reading this plate will give 2 amphours as Hg_2O ~~[illegible]~~

On reducing	MA.	
450 pm	370	
455	340	
500	325	
515	360	
530	360	
535	390	
545	390	
610	380	Opened ckt 750 MAH
Monday 845 am.	330	6
915	350	gassing - 900 MAH

339/160 [illegible]

310
60 (310
60) 18600
1600
6

Nov 24 1900 —

Charcoal plate, 10 charcoal 4 coal tar ~~[illegible]~~ Carbz'd upstairs, through 200 mesh — Soaked in proto chloride Iron then dried + put in Sulphide ammonia then dried + redosed with protochl Fe + again put in Sulphide NH3 — This is 2nd time cleaned surface of plate + put in KOH reducing —

Time	MA		
353	370		
356	680		
4.00	655		
402	380	good too great C density	
405	380	109 watt	
410	380	140 "	
415	380	171 "	
435	360	295 "	gas streaks coming out !
440	370		
445	370	356 "	
450	370	386 "	
455	340	414 "	
5 pm	325	442 "	
515	360	532 "	

458
62
520

380
220
760

120
152
272

530	360	622 MAH – Gassing all over
		652 " Duplicate only gassing in one streak & very slight on Ni.
535.	360	Reversed ~~[illegible]~~ Batt –
		Now oxdz –
545	390	1-Streak on each –
6 pm	390 –	162 MAH
6 pm		Reversed to Reducing –
6 pm	375	
610	375	one gassing along the other slightly
		Opened ckt 610 pm –
845 am	330	Monday – Batt gassing –
915	340	gassing full –
Revsd	Oxdz	
915	350	
935	390	120 MAH –
940	390	152 "
10 am –	380	272 "
10 05	380	303 "
1010	385	334 "
1015	385	365 "
1020	386	396 "
1025	386	427 "
1030	386	458 "
1040	388	520 "

180

470

240

60) 1185 (19

240
120

1045	551	1040 one of them gassing on the
1048	571	good one starting slight on Ni
1055	380	Reversed to Reducing
11 am	380	31 MAH.
1105	380	62 "
1115	380	126 "
1120	380	157 " Notice tendency gas
1125	240	180 " [illegible]
1130	235	200 " No gas at [illegible]
1135	235	219 " slight gassing on the both
1140	235	238 "
1145	235	257 gassing some on the both
1147	160	264 one has several strong gas streaks, other none — both gassing.
12 noon	160 —	284

Current off 6+ after current off 3/4 hr [illegible] Reversed to Oxdg at

1255	250	
105	240	41 MAH.
110	240	61 "
120	240	101 "
130	240	142 "
145	240	206 "
150	240	226 "
205	240	286 "
210	240	306

380 MAH on Oxdg —

		MAH.	
215	240	336	
220	235	346 380	[illegible]
220 Reversed Reducing			
225	236	MAH.	
230	236	19	
235	236	38	
240	240	58	
245	240	78	
300	240	138	
310	240	178	
315	240	198	
320	240	238	good on the slight
Reversed Oxdg			
325	240		
330	245	20	
340	245	80	
350	245	100	
355	240	120	
400	240	140	
410	240	180	
415	240	200	
425	240	240	
430	240	260	
435	240	280	gassy

See next page

Nov 24 1900 —

Tried charcoal plates 10 grms charcoal 4 lots Each mixed with 6 grms of about 28 Iron salts test on Current show that the Sulphide is the best, Made dup plates ½ reduced by H before final Carbon & other ½ not — all run up stairs at high furnace — The sulphide plate weighed the most + gave 3 times the amperes of any other of the plates, plate not reduced by H was best — Evidently the plate had Fe as FeS after Carbon whereas the other salts left Metallic Iron + this has that mysterious scale or something produced by high temp which prevents it from being Oxdzd by Current in KOH — The Sulphide is easily Oxdz or reduced by C in KOH — all that is now [illegible] is to get Carbon plate more porous so the swelling of the Hydroxide will not bulge it out

tonight we tested 4 plates made from Charcoal + thick Tar all coked that 50 100 150 300 atmos pressure the 50 was very porous + strong Enough after Carbon it also took the greatest quantity of FeCl —

280 ma Oxdg —

Reversed Redng

4 35	220		Now Redcg
4 40	220	18	
4 [illegible]	220	54	
5	220	90	
5 05	210	107	
5 10	210	124	
5 15	210	141	
5 20	210	158	
[illegible]	210	[illegible]	
5 30	[illegible]	192	very slight gassg Ni
5 35	[illegible]	209	
Reversed to			Oxdg
5 35	220		
5 40	220	17	
5 45	220	34	
6 pm	220	94	
6 05	230	112	
6 10	230	132	Opened 610
7 30	230		Closed 730
7 45	230	[illegible]	
7 53	220	227	
8	220	243	gassing [illegible]

Reversed Redcg —

8 05	240		
8 20	220	55	
8 25	220	73	
8 50	220	164	gassing on Ni little
9	220	200	
9 10	220	236	" " strong
9 25	220	291	" "
9 30	210	308	" very "

Reversed Oxdg —

9 30	210		
9 50	220	68	Oxdg
10 pm	220	104	
10 10	220	140	
10 20	225	176	
10 30	225	212	no gassing
10 35	220	230	"
10 40	220	248	1 gassing on Ni.
10 50	230	284	both gassing
			Opened for night
8 20	350		On Reducing
8 40	350	110	
9 10	350	285	gassing all over bag
9 35	"	430	" " "
9 50	370		Revsd Redng
10 25	360	210	
10 35	360	270	gassg

381
31
412

286
95
381

386
3
1156

380
15
1900
380

60) 5700 (95
5400
300

536
19
555
19
574

380
1900 (160
60) 1900

160

100 atmos pressure plate
thro 100 on 200 mesh charcoal.
hard tar - soaked several times
FeCl - Non-Reducing

10 am	380	
1020	380	126 matt
1045	386	286 "
~~11 pm~~	~~380~~	~~381~~ "
1105	385	412
1115	350	477
1120	380	505
1125	240	536
1130	236	555
1135	236	574
1140	235	598
1145	235	612
1147	160	619
1150	160	627
12 noon	160	643 12 noon Current off
1255	250	
105	240	683 matt gray slightly
110	240	723 " " on ht
115	240	763 " "
115	Reversed to Oxdz	

305

250

(62

(62 - 60)

60)

361

245

367

763 MAH on Reducing

	MAH		
115	240		oxdg —
130	250	62	
145	240	124	
150	240	144	
205	240	[illegible]	
210	240	224	
215	240	244	
220	235	266	
225	233	256	
230	236	304	
235	236	324	
240	240	344	
245	240	364	
300	240	424	
310	240	464	
315	240	484	
325	240	524	
330	245	544	
345	245	604	
350	245	624	
355	240	644	
400	240	664	
410	240	704	going . 704 m Oxdg
Reversed	to Reducing		
410	240		
15	240	20	

704 MAH on Ox'g —

		MAH	
425	240	40	
430	240	60	
435	220	100	
450	220	125	
5 —	220	191	
505	210	208	
510	210	225	
515	210	242	
520	210	259	
[illegible]	210	276	
535	220	310	
540	220	327	
545	220	344	
550	220	361	
[illegible]	220	378	
6 pm	220	410	gassing Ni very slight
605	236	427	
610	236	447	Opened 610
730	230		Closed 730
745	230	507	
755		560	gassing all over
Reversed to		Ox'g	
755	230		
820	220	91	
855	220	219	
910	220	274	

920	220	310	
925	210	327	
930	210	344	
940	210	378	
950	220	412	
10 pm	220	448	
1010	220	484	
1020	220	521	no gassing
1030	222	557	"
1035	220	575	just started gassing
			Opened at [illegible] night —
820	350		On Reducing
840	350	110	
910	360	285	not gassing
915	360	315	gassing on Ni slight
920	360	345	" more freely on Ni
940	360	455	gassing all over Ag
950	370		Reducing Reversed
1025	360	210	
11	360	420	no gassing
1105	350	448	gassing slight on Ni

Ox'd 575 MAH

683 Red 1st
704 OX
410 Red
575 OX
448 Red

about 400 Mcf ft for this Carbon with Fill — Capacity -

558
131
689

1025
175
1200

253
55
308

453
131
584

452
131
583

220
2

100 on 200 mesh KOH dont seem to go in No 5

Sulphide Plate 10 Char 4 Tan 6

Sulphide Fe – on at 745 50 atmos

		mah	
745	230		
830	220	162	
855	220	253	after 900 min this plate sound except bulged out & frayed at middle top – OK ng –
910	220	308	
930	210	376	
10 pm	220	486	
1020	225	556	
1055	235	689	
1055	385		
1105	390	753	
1115	390	818	
1125	390	883	
1130	390	915	~~off for night~~ OK
820	350		
840	350	1025	
910	360	1200	
940	"	1380	
950	"	1440	gassing slightly and [illegible]
950	370		Reversed Reading
1025	360	260	

2 plates 13 brush full. Ferric Ch thro 200
many times with NH_3 + put in dil NH_3

· Relay

910	700	[illegible]
422	385	[illegible]

72
91
163

163
55
218

386
72
458

458
131
589

589
66
655

718
65
783

1110 [illegible]

No 6 - 100 atmos Traill's Sulphide.
[illegible] 2 Jar washed

810	240		
830	220	72	
855	220	163	
910	220	218	
930	210	286	This plate transflow
10 pm	220	386	300 [illegible]
1020	225	456	bulged out all
1055	225	589	
1055	385		
1105	390	655	Not enuff Tar Hg
1115	390	718	
1120	390	783	
1130	390	815	off for night
820	350		OX
840	350	925	
910	360	1100	
940	"	1280	
950	370		Reversed Reday
1025	360	210	

No1 — ~~10 of clay~~ 100 or 200
~~4 — lime —~~ 100 atmos
~~3 Sulphide Iron~~
~~Bef. Carb 7 grms~~ of the 5.2

No 2 10 char 5 Tar

100 on 200 7.0 atms

4 Carbonate Iron —

Before Carbon 8 grams after 5.47

920
175
1095

648
65
713

379
74
453

713
65
778

No 4 75 ohms S[illegible]
[illegible]

810	240	
830	220	72
855	220	163
915	220	218
930	210	269
10 p	220	379
1020	225	453
1055	225	584
1055	385	
1105	390	648
1115	390	713
1125	390	778
1130	390	810
820	350	
840	"	920
910	360	1095
940	"	1275
950	360	
1025	360	210

after 800 min
This plate [illegible]
but Cracked & sprung
not 1/32 -
ng
off for night

Reversed Relay

919
175
1094

378
74
452

712
65
777

100 cu 200
No 2 –
10 chan 47 am –

Sulphide –
100 atmos

		MAH	
815	240		
830	220	54	
855	220	145	
910	220	200	
930	210	268	
10 pm	220	378	after 800 min
1020	225	452	this plate darkened
1050	230	583	but has small piece
1055	385	—	near centre off –
1105	390	644	
11[illegible]	390	712	
1125	390	777	
1130	390	809	off for night – OK
820	350		
840	"	919	
910	360	1094	plate badly bulged
940	"	1276	
950	"	1330	going slightly in [illegible]
950	Reversed		Radiog
950	370		
1025	360	210	

315
157
60) 9472 (157

131 210 80 (280
487
618
60) 1660 (157
94

350 (110

320
60) 160 (133

165
87
252

340
20 (110

315
20 (150

60) 630 (105

60) 78 (131

315
157
630 768 (131

No 1 10 Charcoal 100 on 200 100 alum[illegible]
4 Tar
3 Sulphide Iron
Before Cartga 7 after 5.2

		MaH
350	330	
410	345	110
430	350	220
5	315	377
520	315	487
545	315	618
6 pm	320	700
625	320	833

gassing slight

630 Reversed Reading

All on

210 MA at 630 pm

750 pm 280 MaH

Put 2 [illegible] place
on at 810 500 ma —

810	570	~~47~~
9 pm —	590	475
905	600.	525
910	600	575
915	600	625
920	600	675
930	600	725
940	550	650
940	[illegible]	
950	340	906
10 —	340	964

90

Changed [illegible]

Acetate Iron

930	600		
940	350	100	
950	330	158	good
10 —	345	200	[illegible]
10 —	200		changed to 200
10.5	200	216	not going
10 10	200	232	
10 20	200	264	
10 30	210	296	
10 30	220		[illegible]
10 32	150		
10 40	150	321	
10 50		346	

165
157
322

No 2 10 Charcoal 100 m 200 [illegible]
5 Tar
4 Carbonate Iron
Before Chgr 8, grms after 5.49

Time			
350	330		
4		Reversed to 0 —	
410	345	55	
430	350	165	Gassing Some
5	345	322	
520	315	-432	
525		Reversd	Redog
850	600		Reversed Redog

No3 10 Char 100 on 200 100 Ct
5 Jar *
3 Carb Iron
Before Chg 8 after 5.3

	m.a.		
3 50	330		
4 –	345		Reversed to Ox
410	345	55	gassing some
430	350	165	
5	315	322	
520	"	432	
525	Reversed		Redag

* this gasses more than 4 Jar + 3 Carb Fe

Reversed No3 to Redag at

840 360 gassed awful
Reversed to Ox

9 am 590

No 4 10 Char 100 m 200 100 At
4 Tar
4 Carb Iron
Before Clyn 8. after 5.57

3.50	330		[illegible]
4.00	345		[illegible]
410	345	55	
430	350	165	[illegible]
5	315	322	
5.20	"	432	
525	Reversed Reducing		
835	360	541	
545	"	600	

396
145
541

(145

350
20
70

(396

210
80

No 5 10 Char 100 on 200 100 Cat
4 Tar
3 Carb Iron
Before Chg. 8 after 527

350	330		
4—	345		Revsd Ox
410	345	55	
430	350	105	going Some
5	315	322	
520	"	432	
525	Reversed Reducing		
630	210	until 750 pm	
810	350	~~350~~	
810	350	396	
835	"	541 600	
845	Reversed Reducing		
845	560		
9	"	140	going

141
81
222

340
25
700
680 (141
85
600
550
240
1

No 6 10 Clear 100 cc 200 100 alum
4 Tan
5 Sulphide Iron
Before Clyn & after C. S.

350	330	
415	345	141
430	350	220
5	315	377
520	"	497

No 7 Char 110 cu 200 100 atmos
4 Tar
4 Sulphide Iron
Before Oxygen 7 after 513

350	330		
415	345	165	
430	350	220	
500 [illegible]	315	377	plate sealed [illegible]
520	315	497	
6pm			Reversed Reading

2532

7- 20 on 100 - about 30 brushfuls fill, at various times from Wednesday till friday - 1st Reduction +

~~9 am~~	~~9:20~~	

about 2 amp hours
or 12.66 watts as H_2O

This shows that if could get 60 brushfuls in could get 2½ amp hours
H_2O —

No 2 - One of the 3 - that has been redrilled twice & repainted. This is third filling about 35 bucketfuls - 1st one -

9am	92d	

55
360
300
(330

536
390
9

60)
(170
340
30
60) 102

920
45
460

1210 360 392
540

1116
170
186

1196
60
1256

670
45
350
335
(170

60)

No 7

~~6.45~~ are the pans twice
reduced about 30 [illegible]fuls

9 am	9.20	
935	920	
935	670	
1010	670	
1015	360.	
1020	300	1016
1030	360	1076
1035	360	1106
1040	360	1136
1045	"	1166
1050	"	1196
110	360	1256
1110	"	1316
1115	"	1346
1120	"	1376
1125	"	1406
1130	"	1536
1140	"	1596
1150	"	1656
12	"	1716
1210		1796
1215		1826
1220		1856

changed [illegible] gas [illegible]
926 MnH
966) reminds that dried
plates dont go quiet
out —

Good

only one small gas attack
scarcely noticeable -

1225	1886
1230	1916
1240	1996
1245	2000

change
Some little
groaning

scarcely any gas attack

54 5/6

30
10
35
77

6.5 | 405

60 - 773) 4220
3865
3550

120
35
1325

7.76 | 6 | 465

67.5

773) 5420
4638

6 | 75

22 Cells - 16 plates per cell
4X8 ¼ thick ⅛ apart

Weight of Hg 106 lbs
" 176 Carbon plates 38.8

Wt of Iron in 176 " 21.2
" 176 Carbon " 33.8
Oxygen 1.92

Wt of 20% Solution 126 lbs

Capacity 6400 AH Total 325 lbs
at .9 Volt 5760 VAH

7.73 HPH.

without Cells or box

325
77
70
50
522 lbs

42 lbs per HPH

405 lbs for 6 Hp hours

67.5 lbs per HP Hour

at .85 Volts on terminal of cell
gives 1.8 Hp rate of discharge.

Framing estimated 3½ lbs per cell - 77
Iron cells 50 lbs Wood box 70lb

3 + 4 on Reducing They are 30
[illegible] $TiCl_3$ | 1st reduction
100 on 200 –

1 pm	920		
120	[illegible]	310	
120	650		
[illegible]	630		
[illegible]	350		
140	"	476	
2 pm	"	576	
215	"	6~~63~~	663
220	"	692	
230	"	750	
245	"	837	
3		924	
310	345	952	
325	345	1079	3 gassing little – and gassing
327	210		
~~340~~	~~210~~	~~1174~~	~~Reversed~~ Red
340	210	1124	~~See other~~
415	200	1264	
To 442			no Current –
5	200	1320	No 4 gassing slight [illegible]
		1386	4 gassed back off at 410 put it in water

---

2 5 6 + 7 in Oxdg

at 1 pm	930		
120	910		
120	650	310	
130	630	410	
132	350	~~470~~	
140	"	476	
2 pm	"	576	
220	"	692	
230	330	750	
245	330	837	
3	380	924	
310	345	952	
325	"	1069	
327	210	1079	All gassing 342 R.of
~~340~~		~~1124~~	

2 started gas at 305

Reversed Reduce
See other page

5 gassing

No 7 — [illegible] 50 m 100 — 30 [illegible] at once

Reversed to Ox at

210	350		
215	"	29	
230	"	116	
245		203	going (...)
300		290	"
Rev Reducing			
215	350		
230	210		
Reversed Reducing			
7.50	350		
805	360	87	
815	"	174	going [illegible]
[illegible]	370		
940	[illegible]	6/0	gas full
Reversed Ox			
950	340		
1010	340		
1025	320	186	

[illegible] Sulphide [illegible] only

[illegible]

open all night the morning

350 ma [illegible]

No 1 [illegible] plates

[illegible] [illegible] [illegible]

1st [illegible]

320
35
1600
960
1120
(186

499
174
673

370
20
60) 940

350
60
1750
2100
2170

(374
124
499

360
20
7200 (120
(122
157
60
217
(319
60) 1
210
17
147.00
2100
(147
60) 3400
1
60
340
170
60)
240 MA
190
2400
(116
294
379
673
(47
60) 2850
2400
46

5642 Reversed Red

330	210		
340		35	
410	210	140	
~~415~~	~~2~~	~~260~~	No Current
445		140	
5		190	
515	200	240	
530	"	290	
545	190	33/	
6	190	38/4	No 6 gauge [illegible]
Reversed OK			
750	350		
805	360	57	
815	360	174	
835	370	244	6 gauge
940	330	673	54/2 OK
			6 Rev at 953 340 [illegible]
9		750	2 gauge
1005		810	

192 | 60000 (310
5760
240

1,5

60) 2100 (35
1800
300

192
60

210
1,5

9 | 460
471

200 (120

19.112

350
1,5

60) 2100

-9836

60) 3,4

330 (275

446

50

10 — to 100 m 200 - treated second time with Ferrous Ox dis in NH_3 — pouring NH_3 on Ferrous Chloride —

352	210		Reducing
410			
to 445			No Change
445	200	70	
5 —	200	120	Ok [illegible]
520	"	[illegible]	"
6	140	306	Very little [illegible]
603	220		gas
	Reversed OK		
750	350		
805	360	87	
815	"	194	174
825	"		234
835	"	244	
940		643	gassing full
	Reversed		Reducing
[illegible]	340		
[illegible]	340		
[illegible]	320	275	
	This with	Sulphide NH_3 goes on Reducing	

60) 3400 (56

190
3
570

60) 3600 (60

87
75
162

60) [illegible] (21 Accurate

2100 (35

Reversed Pedal

453	200		1108	300	
515	200	73	"	520 —	35
530	"	123	1120	520	56
535	190	139			
540		155			
6 —	190	218			
03	215				
610	220	253			
620	223	290			
625	223	308	gaining very slight — (Reversed)		
625	[illegible]				
735	210	250			
745	215	286			
Reversed		Pedal			
152	350				
[illegible]	360	75			
[illegible]	"	162			
[illegible]	360	222	gaining		
Reversed					
[illegible]	360				
Reversed	10	340	— Pedal		
	1010	340			

7.5
66
4.25
4.25
65
1386
63
1449
1320
66
1386
4.25
65
2125
2550
27625
1449
63
1512

3 + 4 at 5 o'clock 4 gassed
Suspect the chloride made had something to do with it as it should have given 2 days took it out & put the jar under to permit Cl & K diffuse out & then put it back reducing again 1320 MAH [illegible]

No 3 OK

5 pm	200	1320	Put 4 back in day
5 20	"	1386	5 30 - good just
5 40	190	1449	same
6 pm	190	1512	3 now gassing
6 03	218		slightly 5,35
7 30	350		
[illegible]	300	87	
8 15	"	174	both gassing strong

Both put to soak
got Chlorine out

213
170
383

340

(1170

[illegible]

(213

[illegible]

No 6

955	340		Redcy
1010	340		
1035	300	213	
1110		383	gassing

835 [illegible]

gassing [illegible]

15
320
10
132 (240
144
61

13 is the other plate treated with Ferrous in ammonia but soaked 3 hours in water before putting in cell —

950	320		Reading
1010	340		
1035	310	240	good slight [illegible]

[illegible]

Monday Morning after being fully reduced Friday last put on & it went 453 matt + then suddenly gased on Ni strong. Show there is some interference with CH2NH4 - or something I put new solution in Monday

60) 9000 (150
213
363

60) 12800 (213
3200

No 2

10	340		[illegible]
1010	340		
1040	300	213	
1110	300	363	going alright

186
125
311

(125

320
35

(146

No 5

1010	340	810	[illegible]
		Received [illegible]	
~~1010~~	~~340~~		
1010	340		
1045	300	186	
1110		311	[illegible]
1125	300	421	[illegible]

[illegible]

300 20
6

No 3. 100 in 200 30 [illegible]
[illegible] —
this is 1 of the pair
General soaking effect
ng — direct radiation of large
quantity [illegible] to [illegible]
well as say 10 [illegible]
then [illegible] several
times —
Reversed Redeg

10 25	340		
10 45	300	100	

Oxdg
put [illegible] in bed
[illegible] 8 35 [illegible]
Chest [illegible] Current [illegible]

Three cells which were dosed
& [illegible] reduced making
30 bowlfuls ferric chlo
[illegible] don't work well
but the same number of
bowlfuls worked 1st 10 in
then reduced ~~[illegible]~~ &
Soaked to get potash chloride
K out & then 10 more bowlfuls
& same process followed
& then 10 more work found
well, gives 750 to 800 watts
The bullets will probably
be best efficiency but 2nd
time heated to decomp alcohol
completely to give porosity —
do about 6 hours — understand
Electro reduction not
necessary — it will require
4 or 500 deg as high as
possible without oxidiz
Carbon

NO 4 same as 3
Soaked for 1½ hours put
in oxidiz — good strong soaking
approx 500 [illegible] —

	Revs	Rdg
10 25	340	
10 45	300	100

[illegible]

No 16 is a new steel plate
with about 50 beautiful
acetate [illegible] but I think
too high heat was especially
[illegible]

		Reading
1052	300	
1105	300	105
1115	"	115
1115	520	
1120	"	132

Left for [illegible] night
[illegible]

60) 3200 (53

233
87
320

175
58
233

60) 1610 (26

60) 3500 (58

350
300
(175

564
86
650

345
(46

all on 1105 am

			Oxdz
1105	370		
1120	360	91	10 gassing little
1135	350	175	acetic gassing
1145	350	233	4 gassing 6
12 -off-	350	320	16 been one streak coming out right along -
1 pm -	320	~~373~~	
110	320	373	16 gassing big
115	320	400	
120	335	426	
125	335	453	B 13 suddenly gassing
130	335	480	No 6 started gassing on the prongs suddenly strong
135	335	507	2+5 not gassing
145	345	564	
2 pm	345	650	2 gassing 5 not
205		683	5 gassing

330
15
1650
330
60)4950(82
480
150

3550
2990
750 (140
60)3350(55
300
350

82
55
137

Acetate Reosd ~~[illegible]~~ Ox

1135	350	
12		140 gas
105	320	Reosd Hydrogen
120	335	82
130	335	137

Solution gets wine red at normal – probably caused by too much previous oxd'n I

faint gassing on Ni prong at 130 – probably density too high

290
20
60) 3400 (96

330
25
650
60) 6600 (140
225

185
140
325

645
80
725

320
15
60) 1200

340
23
60) 6600 (130
482

350
20
60) 7000 (110
407

320
25
60) 6000 (133

24000 (46

3400 (56

892
131
1023

330
15
60) 6600 (112

315
25
60) 7875 (131

3200 (53

3600

~~[illegible]~~ Reducing

Nos | 3 4 13
16 6 ~~[illegible]~~

1.37	335		
2 pm		7 + acetate oxd 3 —	
2 pm	340	130	4 gassing
210	340	186	16 gassing
235	330	325	6 gassing a little
250	330	45[illegible]	3 not gas
300	320	460	~~[illegible]~~
310	320	513	3 + 7 not gassing
335	320	645	3 gassing 7 not gassing
350	360	725	7 still running
400	360	783	
420	350	892	
445	315	1023	Only 7 Running
5	300	1100	
520	290	1196	
530	280	1242	gassing on [illegible]

No 7 was heated with NH Sulphide ~~had~~ been changed 3 or 4 times to get rid Sulphur —

35
300
60) 7050 (175
600
450
420
300

1490
175
1665

335
400
60) 13400 (220
120
140

60) 3200 (53
3...

272
53
325

Record Reading

5 2 + 10

210	340		
150		220	← none gassing
3pm		272	
310	320	325	5 & 2 very slight gassing
335		458	5 & 2 gassing mostly 10 gassing

1/14

all acetate Fe —

In oven 250 deg
No 5 + 10 is 200 mesh + finer 5 dips
from Saturday mng — Char 10 Tar 4
3 pm monday —

Nos 6 + 13
is 100 on 200 Char 10 Tar 4
5 dips from Saturday morning —
3 pm monday

No 4 1 + 3 is 50 on 100 — 10 Char 4 Tar
7 dips from Friday noon to 3 pm monday

315
20
60) 6300 (150
60
3

60) 3500 (58
3000
500

356
75
431

58
90
14

60) 2900 (48
2400
500

360
15
180
60) 180
3
54

13500
4500
4200 (75
3

60) 3500 (58
3000
500

~~[illegible]~~ 7 - [illegible]

~~acct~~ Rady
off

10	OX
2	"
6	
5	
16	'
13	'
3	'
4	'

350	370		
405	360	90	
415	350	146	4 gasping
425	"	206	
445	315	356	
5	300	431	13 gasp
510		481	6 gasping suddenly
520	290	529	
530	280	575	5 [illegible] gasping [illegible]
535	280	600	2 gasping faint

5+2 Best, 6 fair

No 10 gasp

4 neg

15
300
60)4500(75
420
300

315
15
1575
315
60)4725(68
420
525

350
2
60)700(116
60
100
60
40

350
5
60)1750(29
120
550

320
15
1600
320
4800

270
25
1350
540
60)6750(110
60
75

Acetate Iron Ferric

No 20 is a 50 on 100 painted 7 times at intervals from Friday till Monday 4 pm – dried each time on hot plate – finally put in a drying oven for 1 hour at 250 – then put straight in KOH, about 2.125 grms increase weight
2 others are still in oven all day

355	360		Reducing —
415	350	116	
425	"	174	
430	330	203	
445	315	271	
500		346	very slight gassing on Ni
510		396	density too high I think
520	290	444	gassing rather freely
530	280	500	" strong
535	280	525	" "
600	270	635	" "
615	320	715	
617	150		

395
65
460

14 (65
60) 3

150 (220
60)

40 Sulphur

10 - 7 - 2 - 6 - 5 - 13 - 4 - 40 - 16
Reversed

540	300		~~[illegible]~~ Redox
6 -	270	90	
613	320	170	
617	150	175	
745	150	395	2 6 + 5 ~~[illegible]~~ 13
746	280	395	4 growing little
8	280	460	3 very slight 7 + 16 not growing 10 grow

646
67
713

60) 2800 (46
2400
4?

270
135
135
270
60) 4050 (67
360
450

Transf

No 3

Sulphide [illegible]
Changed Sol. 3 times

535	~~280~~	6.00	Oxd
545	300	646 -	
6	270	713	
615	320	793	
617	150	~~1000~~ -	gassing
745	←	1000	

60) 15000 (250
120
30

2.60
1.76
84
280
364

26 — is 100 on 200 10 Char 4 Tar
Dosed with Mercks Ferric Acetate
only once Molasses like
dried only 1 hour put
right in KOH

Weighed 8 grms
hot dry

600	270		
615	320	80	
617	150	85	
745	150	305	
747	280		
8	280	365	

Recovery

40 300
60) 12000 (2

340 30
60) 1020 (170
60
420

340 5
60) 1700 (26

Oxdz
10 – 2 – 6 – 5 – 13 – 4
Rudaq
No 3 –

805	320		
845	300	200	
915	340	370	44 13 gaazy
920	340	400	6 gaany

460
186
64

320
335
160
160
92
110
60
546
54
4
60
(.166

No 7 -

8	'280	460
835	320	646

31 Charcoal + Sulphide Fe grid

915	320	[illegible] – Charcoal low Temp + probably didn't conduct

60)6500(108

650(54

60)3250

320

9000

2275(382

670(55

60)3350

650(210

650

460

54

53

670

130

(140

650

130

(162

60

32 flake pb90 9 Sulphide Fe grid

Reducing

915	320	
940	650	
1015	650	512 gassing
Reversed		602 ~~Red~~ Oxdg
1025	650	
1045	"	210 no gas
11	"	372
1110	"	480
1115	"	534
1120	"	642
1125	"	750
1130	"	858
1140	"	1072
1150	"	1286 gassing
1152	Revsd	1300

1152	650	Reversed Redcg
1205	670	140
1210	670	195

Soaking — Monday 940pm

Jar No 1 Contains
No 5 6 & 2 which are
of same kind about —

Jar No 2 is 100 or 200 — No 26
Graded 10 [illegible] (Chalk
[illegible] [illegible]
+ [illegible] bright in [illegible])
(after drying 1 hour in
Steam plate — (about [illegible]
out — has about 300 watts in —

Jar No 3 Has No 13 in it

650
15
3250
650
9750 (162
60) 650.0 (10.8

650
60) 13000 (210
650
15
3250
650
9750 (162
60) 9750

270
162
432

650
15
3250
650
9750 (162
60) 9750

650
15
3250

33 Ferric Sulphide Oxdzd to Ferric O on dish he had over SO4 — packed with Dixon p690 on Ni grid —

1035	650		Reducing
1050	"	162	
11	"	270	
1115	"	432	
1120	"	540	
1125	"	648	
1130	"	756	gasing very slight
1135	"	864	
1140		972	wo
1150	"	1188	Reversed
1150;	650	Reversed Oxdg	
1205		162	
1210		217	

34 = Dixon pbq + Oxalate 9 in w pkd dry

1120	650	
1140	"	432 gassing but not fail
1150	"	648
1150	650	Removed Oxdz
1		

660
55
1510
1600
3060
(1360
(110
60)6600
60)6600
60)6600
720
131
41

34 — 36 which is big flow in big bat — 33 + 32
all left Reducing at 1230 on (am)
170 ma —— in morning 160
8 hours 30 min
1360 maH —

Oxdg —

910	680	
925	680	170
935	660	280
940	660	335
945	"	390
950	"	445x
10 —	"	555
1005		665
1015	630	720
1030	"	877

all but 34 kept gassing quite strong after Current was off - still gassing 10 minutes after gen 34 stopped in 1/2 minute after opening -

With C on 680 ma all but 34 gas slightly after being on 5 min -

34 + 36 gassing heavy

Notice that 34 + 36 on opening after [illegible] gas instantly stops —

938 Reversed 34 + 36 Relay

33 gassing —
Reversed Relay 10 am 450

32 gassing very slight

630

(110

38 — grid with Pb90 & Protochloride Iron

957	660		
1015	600	170	
1105		270	[illegible]

25
60)1620(270

60)1260(210

60)2100(350

33 - [illegible]

10	630		
10 20	"	210	
10 25	"	265	
10 30		320	
10 35	600		[illegible]
11 —	600	230	
11 05	600	3[illegible]	
11 25	600		[illegible]
[illegible]		350	[illegible]
12 10	600		[illegible]

660
60) 1320 (220
120
120
167
387

670
60) 1005 (167

39 [illegible] sulphuret in bottle + P690

Reduc

10.20	670		
[illegible]	"	290	[illegible]
11 —	680		Red ⊖x
1.45	600		[illegible]
12		[illegible]	
[illegible] 10		[illegible]	
1 pm	[illegible]		
2.35	680	Ox	
2.50	670	167	
3.10	660	3√67	
3.15		442	gassing little
3.22	640	Reduc	
3.35			

34

1035	.70		R. [illegible]	
~~1125~~	~~600~~			OX

1035	[illegible]		Rad[illegible]	
1125 1140	600 "	200	Gnd	[illegible]
52 1212 [illegible]	600 600 [illegible]		Round Rad[illegible] 66	

40 ([illegible])

[illegible]	7		

3.2 x 5.6

434
56
490

490
55
545

49
55
04

636

6700

6600

6400

32 - [illegible] F.S. P690
875 Watt on 0

1035	600	Reading	
1110	[illegible]	350	
1115	"	400	
1120	"	450	
1125		500	
1130	600	550	
[illegible]	600		
[illegible]	"	250	
[illegible]	"		
[illegible]			
1[illegible]	[illegible]		230 | 660 | 545
10[illegible]		[illegible]	
11[illegible]		1[illegible]	
		1[illegible]	
	650	[illegible]	
	650	[illegible]	
[illegible]	650	672	
135	640	696	
140	640	745	
140 -	650	Reversed Reading	
2 -	630	213.	
210	670	323	OVER
220	670	434	
225		490	

32

235	680		OX
250	[illegible]	.167	
3	680	280	
320	640	493	
330	640	599	
335	690	650	
340	620	700	
340	Reversed		Redcg
340	600		

200 MAH 430

1.9 Met 7E

41 [illegible] Empty 4.8
full 10.7
6 grams [illegible] of [illegible] FeS
thru 200 m + 3 grams flake [illegible]

1:00	640	~~Redcg~~ OX
Reducing at		
1:55	650	
2:14	650	Reversed Redcg
2:55	670	OX
3:15	660	220
3:20	640	275

650
30
950
60) 1800
1200
13

325
167
492

12
48

12.8
4.5
7.3

42

FeS – powdered thru 200
grid empty 4.8
filled 12.1
.7300 of mixture of which
7/10 is FeS + 3/10 pbqo

205	670	0X
235	680	Redeg
250	670	167
320		492
325	640	547 gassing slight

12.2
4.3
7.9

2.16 grm Metallic Fe

43 FeS - powdered thru 200 mesh
Empty grid 4.3 filled 12.2
.7900 mgs of which
8/10 FeS 2/10 Pbo?

205	670		ox
235	680		Reducing
250	670	167	
320	640	492	
330	640	592	not gassing
335	620	642	gas slightly

6.48 grms FeS

4.12 grms Fe

This is best so far

6.32 grms metallized iron

700 watt on ox before gassing —
This after 4 Ox + Reduc

But 39 which is next best may have less sulphide & may be better —

441
83
524

256
279
535

60) 5000 (83
480
200

670
25
3350

60) 167 (279

630
180 (210
30)

60) 125 00 (208
120 00
500

201
240 (2.56
134
60) 154
120
340

9) 10.100 (1.122
169
1.855
1.926
6264
1571
1695
7089
7.2894

520
63
607

grid 6.8
filled 16.9 – Hg 7 grm PbO 2 grm

44 ½ HgO ½ graphite

227	660		Reday
250	670	256	
315		535	
335	620	745	

11 9
5 2
6.1 7

6 50 60 | 2.10
60) [illegible]

45 — grid Empty 5.2 **Dry**
full 11.9
FeS 20 on 40 mesh
proportion – 7 grms FeS 3 grms PbO of
of the 6.7 grms total —

3pm 320	670	210 going
322	640	Reading

[illegible] the FeS

640
15
0
3200
640 00
6
60) 9600
3
(160

46 Same as 45 – Except wet with KOH when packed –

315	660	
330	640	160 –

Grid empty	Wet	6.37
" filled		10.0 "
Brown oxide iron		.8 — "
Plumbago		2 — "

47

Loaded grid 6,32
10 5

Proportion 8 of Brown OX Fe Merck
2 P690

355 | 864 (2.40
710
1540
1420
250

16.5 | 1.045
50
11.5
11
50
44

206 | 2000 (9.7
1944
560
532
28

206
16

9.4
9.2
16
8
16
846
816

Hg grid Empty — 5 —
48 Loaded 16.5 — .15 due to soda for wetting
Proportion 9 grms HgO
2 " PbO
This has asbestos on top —

9.4 grms Mercury Oxide — HgO —

8.64 grms Metallic ?

2.4 amp H [illegible] if
Calculations are right)

107
61
5 | 4.6
92
3
2.76

grd Empty 6.1
filled " 10.7

49 — Preptn 3 of moist Ferric Hydte
2 pkgs —

2.76 grms Moist Hydrate

55
16
71

550
497
49.8

(77

6.66 grm
77
4667
4662
4.66

53

100
1666
4

50

~~[illegible]~~
grd Empty 4.8
full 14.8
proportion 4 Manganese $_2O$
p [illegible] 2

6.66 grm MnO_2

5 grms MnO —

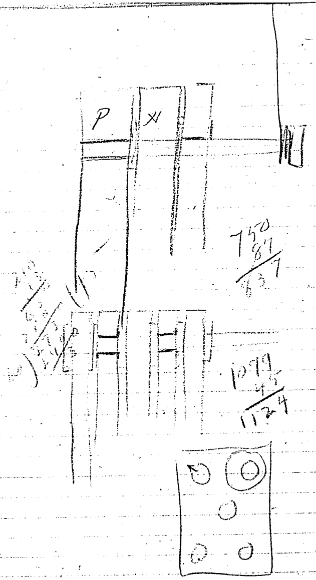
51 9nd Empty 6.6
full " 11.2
Propln.
5 of Mount Wns
2 [illegible]

52 MnS made by fusing Dioxide with Sulphur
pb90

Grid empty 6.8
" full " 11.4
MnS 5 parts
pb90 2 pts –

53 — MnS. made by Rafu
Dried – H_2S I think

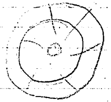
propties $3\ MnS + 2$ [illegible]



750
87
837

1079
45
1124

924
58
9[illegible]



837
87
924

29
3
87

60) 3500 (58
3000

692
58
750

3
60) 7000 (110
60
100

982
87
1069

58
29
87
29
116

208
6
374

500 (291.
[illegible]
54
1

60) 5200 (86
4800
4

374
86
460

(145

3400 (56

29
4
116
576
692

60) 1860 (10
180
60

360
60) 1080 (180
600
480

350
60) 700 (110
600
100

640
5
3200

260
213
493

60) 12800 (213

80) 6400 (106
6000
4

300
40
) 12000

5280
30

67/15
6

493
106
599

5220 (67
4684

773

1264
36
1132

185—

154—

85

650

350
20
60) 7000 (110

60) 1700 (29

70
50—
325
77
522

576
87
663

160
44
640

350
175
60) 5220 (87

60) 750 (12
600
150

54

60) 1000 (17
60
4

(6

576
36
612

) 1500 (25—
120

663
29
692

60) 6800 (113

5710

28500
2400

(47.5

1800

167
113
280

220

4200
300

(126

360
35
800

60) 1200

(210

1100
600

(80

360
360

126
91
21

(91

(177.5

60) 2200

6500

(61

60) 2230 (36

73
91
164

6700
13400

210

60) 220

484
37
521

376
34
412

60) 2200 (36

15
1100
220
330

(55

375
120
750

3000
300

375
450

(750

360

420
300

60) 2200
1800

(36

164
36
200

162

(167
38
221

220
15
110
220
330

(53

(60)

3000

271

(18

40 60)

60) 1700 (28
447

276
310

230
15
115
230

(57

217
57
274

360
35
1800
1080
12600